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PATENT SPECIFICATION

1,059,397

1,059,397

Date of Application and filing Complete Specification: June 22, 1964. No. 25781/64

Application made in Germany (No. E25021v/37a) on June 20, 1963.

Application made in Germany (No. E25623v/37a) on October 3, 1963.

Complete Specification Published: February 22, 1967.

Index at Acceptance:—E1 W (2A10, 2A13, 2A22, 2A28, 2A50, 2A119); E1 A8

Int. Cl.:—E 04 c 1/80 // E04h.

COMPLETE SPECIFICATION

DRAWINGS ATTACHED

A Roof constructed of Prefabricated Elements of Reinforced Concrete and Method for Assembling Same

We, EDELTRAUD POLONYI of Hohenstaufenring 53, Cologne, Germany, GERTRUD STEWING of Kirchhellener Allee 13, Dorsten, Germany, and PAUL STEWING of Gartenstrasse 6, Lembeck near Dorsten, Germany, all German citizens, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:

Roofs constructed of prefabricated reinforced concrete elements are already known and are often used. A common feature of such roofs is that they are constructed from a support means and a roof covering resting on the support means. Roof constructions held by a single support and not requiring additional support means, as from walls, are also already known in the art as shell-form roofs or folded roofs, but these are usually constructed in one piece of cast-in-situ concrete.

The disadvantages of roof constructions of this type lie in the capital costs and in the relatively long time required for construction. If the numerous possibilities for use of such roofs are, however, taken into account, e.g. for petrol stations, shelters at public transport stops, etc. the need of the building art for roofs supported only by one or a few supports and made of reinforced concrete elements which can be constructed in situ in as short a time as possible at the lowest possible cost, is immediately apparent. The invention has for an object to provide a suitable roof construction of prefabricated reinforced concrete elements for this purpose.

A roof structure, according to the present invention, is constructed of sheet-like, prefabricated, reinforced concrete, structural units which are curved or comprise curved or plane parts meeting at a fold and are disposed side by side in a direction normal to the plane of the curve or parallel to the fold of each element and are held to one another by flexible tensioned means passing transversely through the units in a sinuous manner with the inward and outward undulations of each wire extending respectively towards and away from the centre line of the units and lying substantially within the breadths of respective units which are supported by a single support or by a plurality of spaced supports.

Numerous forms of correspondingly shaped, prefabricated units may be used to construct roof structures in accordance with the invention. A preferred embodiment which is of special importance because of its simplicity is that in which the structural units have a single curve or fold or two curves on opposite sides of a fold arranged in a direction perpendicular to the plane of the bends.

A method of forming a roof structure in accordance with the invention includes prefabricating a plurality of similar reinforced concrete, sheet-like units, each with symmetrically disposed, transverse bores or grooves of inwardly or outwardly undulating form, assembling units side by side with ends of the bores or grooves of adjacent units in register and with undulations of the bores or grooves extending inwardly and outwardly respectively in adjacent units, threading flexible means through the bores or grooves and tensioning the said means to clamp the units to one another.

Advantageously, in order to adapt the prefabricated units to as wide a range of uses as possible, they and the tensioning means are so calculated that it is possible to support the resultant assembly of units by one or more supports with any desired securing means.

Advantages of the invention lie in the

[Price 4s. 6d.]

1,059,397 COMPLETE SPECIFICATION
2 SHEETS
This drawing is a reproduction of the Original on a reduced scale.
SHEETS 1 & 2

Fig. 4

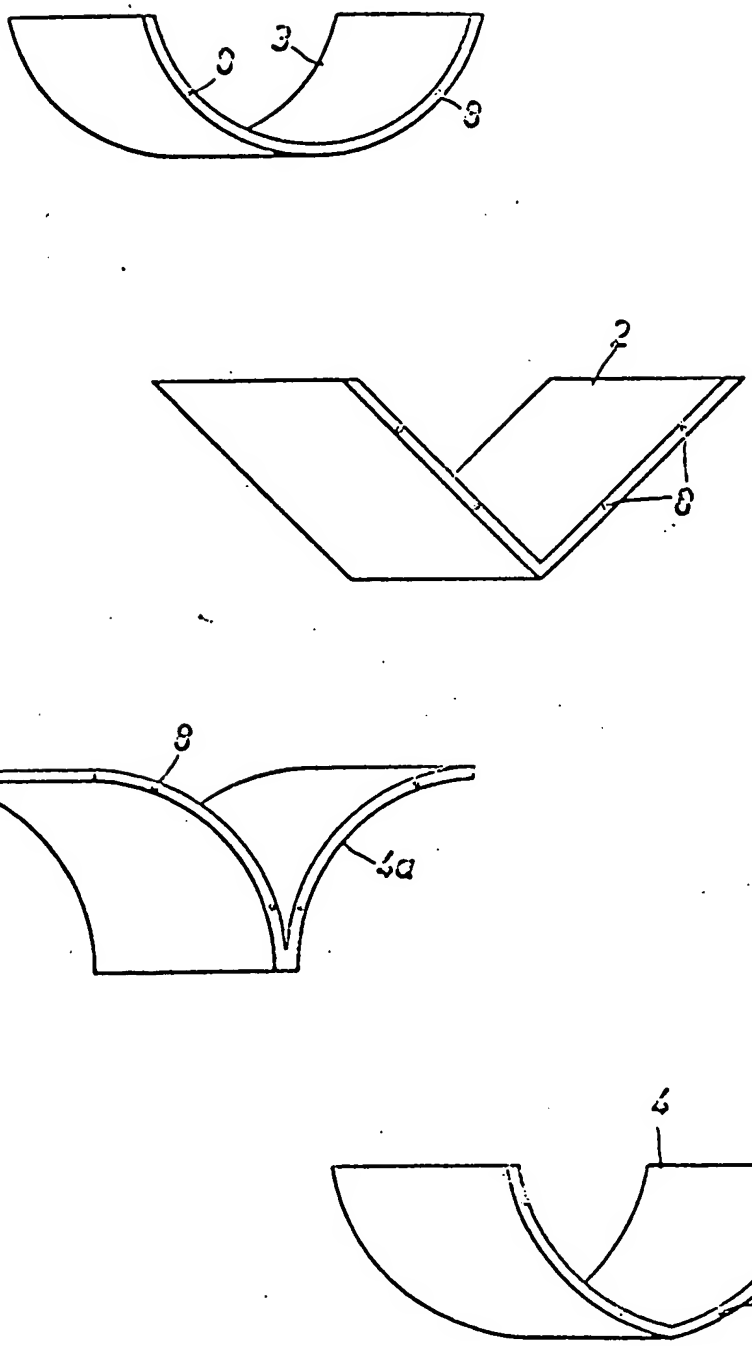

Fig.1

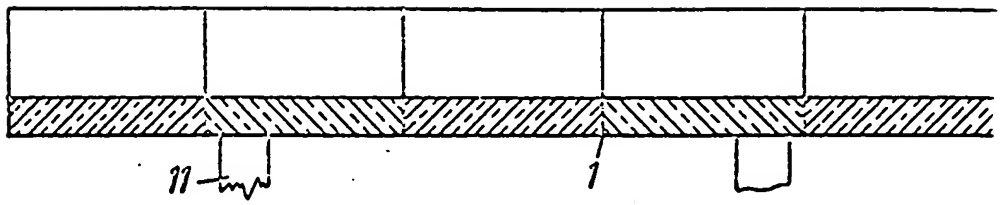

Fig.2

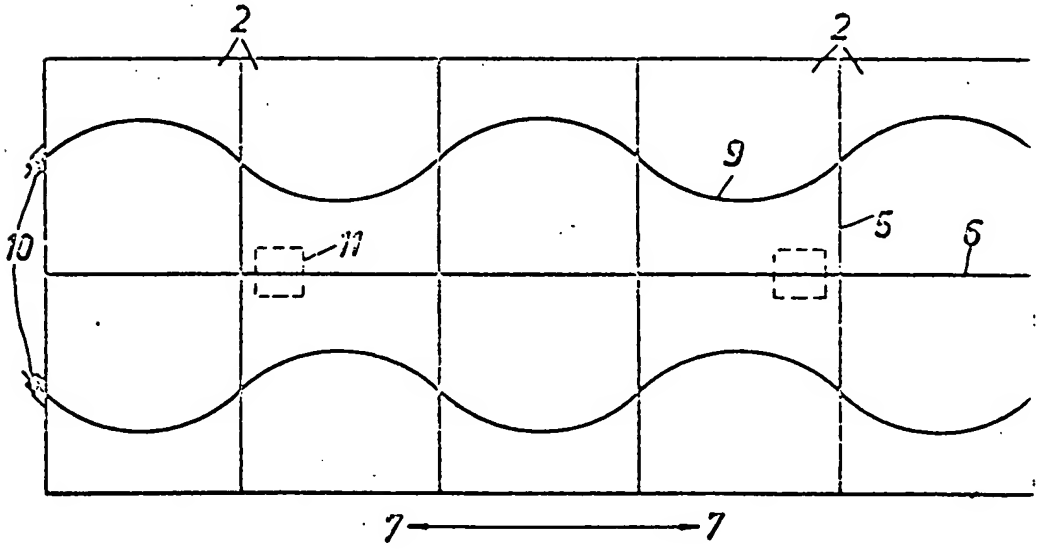

Fig.3